



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,310	02/14/2006	Marcus Schorpp	915-005.205	3389
4955 7590 08/07/2007 WARE FRESSOLA VAN DER SLUYS & ADOLPHSON, LLP BRADFORD GREEN, BUILDING 5 755 MAIN STREET, P O BOX 224 MONROE, CT 06468			EXAMINER SAHLE, MAHIDERE S	
			ART UNIT 2809	PAPER NUMBER
			MAIL DATE 08/07/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/568,310

Applicant(s)

SCHORPP, MARCUS

Examiner

Mahidere S. Sahle

Art Unit

2809

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 14 February 2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-10 are pending in this application.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-2 and 8-10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 4, 12-14, and 16 of copending Application No. 10/517,946. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-2 and 8-10 are anticipated by or, in the alternative, are obvious over claims 1-2, 4, 12-14, and 16 of copending Application No. 10/517,946.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Application: 10/568,310	Reference: Application 10/517,946
<p>1. An electrically controlled device, which device comprises at least one electrically and individually controllable cell with at least two separate electrode structures arranged within said cell, said electrode structures capable of storing electric charges, the device comprising further means to transfer electric charges in a temporally controlled manner between said at least two separate electrode structures, and that for at least one of said the electrode structures within said cell, said charge transfer means comprises substantially the only means for providing electrical power and/or electrical driving.</p> <p>2. The device according to the claim 1, characterized in that the device is being an electrically controlled light modulator device comprising at least one cell, said cell comprising at least</p> <ul style="list-style-type: none"> - two deformable dielectric layers which meet at an interface, at least one of said layers consisting of viscoelastic relief forming gel, - a support electrode structure arranged on one side of the dielectric layers, - a signal electrode structure arranged on the other side of the dielectric layers and opposite to the support electrode structure, - an enhancement electrode structure composed of one or more separate electrode zones arranged in the proximity of the signal electrode structure, - signal means for electrically driving the support and signal electrode structures in order to generate an electric field between said electrode structures and passing at least partly through the two deformable dielectric layers in order to create surface reliefs on the viscoelastic gel layer, - enhancement signal means for electrically driving the enhancement electrode structure in order to generate electric field enhancing the deformation of the viscoelastic gel layer, and that within said cell in order to electrically drive the enhancement electrode structure the enhancement signal means are arranged in a temporally controlled manner to transfer electric charges between the signal electrode structure and the enhancement electrode structure. 	<p>1. An electrically controlled light modulator device comprising at least one cell, said cell comprising at least</p> <ul style="list-style-type: none"> - two deformable dielectric layers which meet at an interface, at least one of said layers consisting of viscoelastic relief forming gel, - a first support electrode structure arranged on one side of the dielectric layers, - a second signal electrode structure arranged on the other side of the dielectric layers and opposite to the support electrode structure, and - signal means for applying signal voltage between the support and signal electrode structures to generate electric field passing through the two deformable dielectric layers in order to create surface reliefs on the viscoelastic gel layer, - a third enhancement electrode structure composed of one or more separate electrode zones arranged in the proximity of the first signal electrode structure, and - enhancement signal means for applying enhancement signal voltage between the enhancement electrode structure and the signal electrode structure in order to locally concentrate the electric field passing through the two deformable dielectric layers and therefore arranged to enhance the amplitude of the deformation of the viscoelastic gel layer. <p>13. A display device comprising a plurality of electrically controlled light modulator devices, said light modulator devices comprising at least one cell, said cell comprising at least</p> <ul style="list-style-type: none"> - two deformable dielectric layers which meet at an interface, at least one of said layers consisting of viscoelastic relief forming gel, - a first support electrode structure arranged on one side of the dielectric layers, - a second signal electrode structure arranged on the other side of the dielectric layers and opposite to the support electrode structure, and - signal means for applying signal voltage between the support and signal electrode structures to generate electric field passing through the two deformable dielectric layers in order to create surface reliefs on the viscoelastic gel layer, - a third enhancement electrode structure composed of one or more separate electrode zones arranged in the proximity of the first signal electrode structure, and - enhancement signal means for applying enhancement signal voltage between the enhancement electrode structure and the signal electrode structure in order to locally concentrate the electric field passing through the two deformable dielectric layers and therefore arranged to enhance the amplitude of the deformation of the viscoelastic gel layer.

<p>Regarding claims 1 and 2, there is no difference between claims 1 and 2 of the instant application and the claims 1 or 13 of the reference application. For example, "electrically driving" and "applying signal voltage" to the support and signal electrode structures allows the system "to generate an electric field". In claims 1 or 13 of the reference, the electric field passes through the deformable layers. In claims 1 and 2, the electric field passes between the electrode structures and then through the dielectric layers. According to the structure of the system, the field would need to pass between the electrodes if passing through the layers. In addition, the enhancement signal means in claims 1 and 2, serves the same purpose as claims 1 or 13 of the reference application, which is to transfer charges and to enhance in the deformation of the viscoelastic gel layer. Therefore, there is no subject matter that is patentably distinct between claims 1 and 2, and claims 1 or 13 of the reference application.</p>	
<p>8. The device according to the claim 1, characterized in that wherein within a cell the enhancement electrode structure and the signal electrode structure are arranged substantially in a single common plane with respect to each other and facing the opposite support electrode structure.</p>	<p>2. The device according to the claim 1, wherein within a cell the enhancement electrode structure and the signal electrode structure are arranged substantially in a single common plane with respect to each other and facing the opposite support electrode structure.</p> <p>14. The device according to the claim 13, wherein within a cell the enhancement electrode structure and the signal electrode structure are arranged substantially in a single common plane with respect to each other and facing the opposite support electrode structure.</p>
<p>Regarding claim 8, there is no subject matter that is patentably distinct between claim 8 and claims 2 or 14 of the reference application.</p>	
<p>9. The device according to the claim 2, characterized in that wherein within a cell the enhancement electrode structure and the signal electrode structure are arranged in substantially different planes with respect to each other and with respect to the opposite support electrode.</p>	<p>4. The device according to the claim 1, wherein within a cell the enhancement electrode structure and the signal electrode structure are arranged in substantially different planes with respect to each other and with respect to the opposite support electrode .</p> <p>16. The device according to the claim 13, wherein within a cell the enhancement electrode structure and the signal electrode structure are arranged in substantially different planes with respect to each other and with respect to the opposite support electrode.</p>
<p>Regarding claim 9, there is no subject matter that is patentably distinct between claim 9 and claims 4 or 16 of the reference application.</p>	
<p>10. The device according to the claim 1, characterized in that wherein multiple cells are arranged into a matrix to form an optical display device.</p>	<p>12. The device according to claim 1, wherein multiple cells are arranged to form a display device.</p>
<p>Regarding claim 10, the cells would need to be arranged into a matrix in order to form a visual display device. Therefore, claim 10 of the instant application is not patentably distinct from claim 12 of the reference application.</p>	

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Guscho WO 01/48531 in view of Takamura et al. USP No. 4,291,337.

In reference to claim 1, Guscho discloses the following limitations:

- an electrically and individually controllable cell 1 (see figure 1, pg. 30, line 22)
- at least two separate electrodes (pg. 1, lines 23-25)

Guscho does not specifically disclose the device comprising means to transfer electric charges and electrode structures capable of storing electric charges.

In regards to the electrode structures capable of storing electric charges, it is known in the art that capacitors are devices formed of conductive electrodes separated by dielectric material, which also store electric charges. It is also known in the art that electrodes can collect or emit electric charges, hence the transfer of electric charges as mentioned at Takamura et al.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the teachings of Takamura et al. in the device of Guscho, since by storing the electric charge into a capacitor with a small value, the electric charge transfers as rapidly and efficiently as possible and repeats this transfer operation effectively (col. 1, lines 4-13).

In reference to claim 2, Guscho discloses the limitations as is set forth above including:

- light modulator device (pg. 1, lines 6-8)
- two deformable dielectric layers, gel layer 5 (see figure 1 and pg. 30, lines 23-27) and second deformable layer 4 (see figure 1 and pg. 30, lines 23-27)
- support electrode 6 (see figure 1 and pg. 30, line 24)
- signal electrode 3 (see figure 1 and pg. 30, line 25)
- enhancement electrode 42 (see figure 22 and pg. 49, lines 21-23), where the enhancement electrode 42 is a matrix of signal electrodes (see figure 22 and pg. 49, lines 21-31)
- signal means and surface relief generated at the interface between the two layers in response to applied signals (pg. 1, lines 23-25)
- enhancement signal means 41 (see figure 22 and pg. 49, lines 23-24) for enhancement electrode 42
- transfer of charges between the signal electrode 3 and enhancement electrode

This claim was recited in its entirety in Guscho reference.

In reference to claim 3, Guscho discloses the limitations as is set forth above including:

- enhancement signal means 41 is only means for electrical power to enhancement electrode 42 (see figure 22)

The enhancement signal means 41, as shown in figure 22 of reference, shows switches connected to the enhancement electrode 42. This shows a controlled means for a charge transfer process. This claim was recited in its entirety in Guscho reference.

In reference to claim 4, Guscho discloses the limitations as is set forth above for claim 2 including:

- enhancement signal means 41 arranged in a temporally controlled manner to discharge back to signal electrode 3 and/or ground (see figure 22, pg. 49, lines 23-24, pg. 52, lines 16-19; figure 23, pg. 50, lines 19-23)

The enhancement signal means 41, as shown in figure 22 and 23 of reference, shows switches connected to the enhancement electrode 42. This shows a controlled means for a charge transfer process. In addition, figure 26 and page 52, lines 16-19, show that signal electrodes 3 are interconnected via enhancement signal means (switch devices) 41. Since switches are used to connect, disconnect, or redirect the devices in which they serve, it would be obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Takamura in the device of Guscho, since the electric charge transfer method which, when the quantity of electric charge stored is varied by charging or discharging, transfers as rapidly and efficiently as possible and repeats this transfer operation effectively (col. 1, lines 4-13).

Art Unit: 2809

In reference to claim 5, Guscho discloses the limitations as is set forth above for claim 2.

Guscho does not specifically disclose the transfer of electric charges between the signal and enhancement electrodes.

In figure 26 and page 52, lines 16-19, shows that signal electrodes 3 are interconnected via enhancement signal means (switch devices) 41. Since switches are used to connect, disconnect, or redirect the devices in which they serve, it would be obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Takamura in the device of Guscho, since the electric charge transfer method which, when the quantity of electric charge stored is varied by charging or discharging, transfers as rapidly and efficiently as possible and repeats this transfer operation effectively (col. 1, lines 4-13).

In reference to claim 6, Guscho discloses the limitations as is set forth above for claim 5.

Guscho does not specifically disclose the signal electrode can discharge without affecting the enhancement electrode.

In figure 26 and page 52, lines 16-19, shows that signal electrodes 3 are interconnected via enhancement signal means (switch devices) 41. Since switches are used to connect, disconnect, or redirect the devices in which they serve, it would be obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Takamura in the device of Guscho, since the electric charge transfer method which, when the quantity of electric charge stored is varied by charging or discharging, transfers as rapidly and efficiently as possible and repeats this transfer operation effectively (col. 1, lines 4-13).

In reference to claim 7, Guscho discloses the limitations as is set forth above for claim 5.

Guscho does not specifically disclose the signal and enhancement electrodes discharging simultaneously.

In figure 26 and page 52, lines 16-19, shows that signal electrodes 3 are interconnected via enhancement signal means (switch devices) 41. Since switches are used to connect, disconnect, or redirect the devices in which they serve, it would be obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Takamura in the device of Guscho, since the electric charge transfer method which, when the quantity of electric charge stored is varied by charging or discharging, transfers as rapidly and efficiently as possible and repeats this transfer operation effectively (col. 1, lines 4-13).

Art Unit: 2809

In reference to claim 8, Guscho discloses the limitations as is set forth above for claim 1 including:

- enhancement electrode 42 and signal electrode 3 arranged in a common plane (see figure 22 and pg. 49, lines 21-23)

This claim was recited in its entirety in Guscho reference.

In reference to claim 9, Guscho discloses the limitations as is set forth above for claim 2 including:

- enhancement electrode 47 (see figure 23 and pg. 50, lines 19-21) and signal electrode 3 arranged on different planes (see figure 23)

This claim was recited in its entirety in Guscho reference.

In reference to claim 10, Guscho discloses the limitations as is set forth above for claim 1 including:

- multiple cells arranged into a matrix to form an optical display device (pg. 24, lines 26-29)

Art Unit: 2809

Prior Art Citations

Rotenberg et al. US PGPub No. 2004/0120180 and Tsai et al. US PGPub No. 2004/0146764 are each being cited herein to show an electrically controlled device that would have read on or made obvious a number of the above rejected claims, however, such rejections would have been repetitive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahidere S. Sahle whose telephone number is (571 270-3329. The examiner can normally be reached on Monday thru Thursday 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm Ullah can be reached on 571 272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MSS


AKM ULLAH
SUPERVISORY PATENT EXAMINER